DOCUMENT RESUME

ED 426 740 JC 990 071

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TITLE Andragogy, The Adult Learner and Faculty as Learners.
PUB DATE 1998-03-00
NOTE 31p.
PUB TYPE Reports - Descriptive (141)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Adult Learning; *Andragogy; *Community Colleges; Comparative Analysis; Educational Change; Educational Theories; Faculty Development; *Instruction; Instructional Innovation; Learning Strategies; Teacher Education; Two Year Colleges

ABSTRACT

Through a synthesis of research and literature, this paper explores factors that motivate human learning and development, specifically in the higher education environment. After discussing andragogy (the science of adult learning), the paper highlights four differences between andragogy and pedagogy: (1) self-concept and the student-teacher relationship: andragogy implies a more equal and reciprocal relationship; (2) experience: andragogy is more multi-directional than pedagogical methods; (3) readiness to learn: in andragogy, adult learners are more capable than children of identifying their interests and needs; and (4) time perspective and orientation learning: pedagogy in elementary and secondary schools has become increasingly more andragogical with the deliberate introduction of experiential, collaborative, and interactive learning. The paper then presents sections on the seven steps in the andragogical process; the new adult learner, who is quite different from the typical post-World War II college student in age as well as educational objective; and four different learning styles and the types of students who adopt them, according to the Myers Briggs Type Indicator. Being aware of these styles assists faculty in accommodating students' various temperaments and educational needs. Finally, the paper reflects on teachers themselves as learners, and makes suggestions for strengthening community college faculty scholarship. Contains 16 references. (AS)

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ED 426 740

ANDRAGOGY, THE ADULT LEARNER AND FACULTY AS LEARNERS

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March 28, 1998

JC 990 071

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1

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INTRODUCTION

The purpose of this paper is to explore what motivates human learning and development on the part of adult learners. It begins with a discussion about andragogy, the science of adult learning, and highlights the differences between andragogy and pedagogy. The discussion is based primarily on the work of John Ingalls, which in turn is based on that of Malcolm Knowles. It is followed by a section on the new adult learner, who exhibits a learning style in marked contrast to that of most faculty. The information for this section is based largely on a study conducted by Charles C. Schroeder of the University of Missouri-Columbia. Finally, this paper examines faculty as learners and makes suggestions for strengthening community college faculty scholarship. It reflects the work of James C. Palmer and George B. Vaughan.

ANDRAGOGY

Andragogy is defined as the art or science of leading adult learning and was first used by a German educator, Alexander Kapp, in 1833 (Ingalls, 1972). It is distinct from *pedagogy*, even though the distinction is much less recognized by American educators than it is by their European counterparts. Malcolm Knowles, a leading theorist in the field of andragogy, observes:

> Most of what is known about learning has been derived from studies of learning in children and animals. Most of what is known about teaching has been derived from experience with teaching children under conditions of compulsory attendance. And most theories about the learning/teaching transaction are based on the definition of education as a process of transmitting the culture. From these theories and assumptions there has emerged the technology of "pedagogy"

> -- a term derived from the Greek stem *paid-* (meaning "child") and *agogos* (meaning "leading"). So "Pedagogy" means specifically the art and science of teaching children.
>
> One problem is that somewhere in history, the "children" part of the definition got lost. In many people's minds – and even in the dictionary – "pedagogy" is defined as the art and science of teaching. Period. Even in books on adult education you can find references to "the pedagogy of adult education," without any apparent discomfort over the contradiction in terms. Indeed, in my estimate, the main reason why adult education has not achieved the impact on our civilization of which it is capable is that most teachers of adults have only known how to teach adults as if they were children. (Knowles in Ingalls, 1972)

Ingalls (1972) notes four concepts which help to differentiate between pedagogy and andragogy. These are:

1. Self-concept. Children conceive of themselves as dependent until they move toward adulthood and become aware that they are capable of making their own choices. As an adult in an educational setting, they are caught between conflicting concepts of autonomy and dependency. They know what they want and what they don't want, but they have been conditioned to be treated like children in the classroom and not only accept, but expect, the teacher to take responsibility for the learning process. Thus, there is a significant difference between pedagogy and andragogy in terms of the student-teacher relationship. Pedagogy implies a dominant teacher/dependent student relationship; andragogy implies a more equal and reciprocal relationship.

2. Experience: Compared to adults, children have little experience. "Experience is what happens *to* them" (Ingalls, 1972). Thus, pedagogical methods are largely one-directional, from teacher to learner. For adults, who have considerably more experience upon which to

draw, the most effective relationship is multi-directional and takes place within a learning community where the experiences of both teacher and students are equally valued.

3. Readiness to Learn: As Ingalls (1972) notes, "The main task of pedagogical curriculum development lies in dealing with sequencing and interrelating of subjects and skill-building activities to meet the requirements of competency for graduation." The teacher is responsible for both the content and the process for children who are grouped by grade and class. In andragogy, on the other hand, the adult learners are the ones who identify their interests and their needs with the help of a teacher/facilitator who provides a structure which supports a self-directed learning approach.

4. Time Perspective and Orientation to Learning: Children spend their educational years storing up bits and pieces of knowledge which, they are assured, will someday be useful. Graduation is a kind of "rite of passage" from the learning world into the "doing world" with the strong implication that after graduation, the learning world is left behind (Ingalls, 1972). In andragogy, the approach is more problem-centered rather than subject-centered. The emphasis is on the action of learning by doing, preferably within a real-life context. Ingalls is careful to note that this does not mean that andragogy does not value knowledge of the past. Rather it is an acknowledgement that adults are more motivated to learn when they are addressing an immediate need. Moreover, it should be noted that pedagogy in elementary and secondary schools has become increasingly more andragogical with the deliberate introduction of experiential, collaborative, and interactive learning.

As an educational approach, andragogy also addresses a fundamental shift in the purpose of education, which historically has been defined as the transmission of knowledge from one generation to the next. The undergraduate curriculum can be traced as far back as Greek and Roman antiquity, when liberal education, *disciplinae liberae*, was based on two models: the *trivium*, consisting of grammar, rhetoric, and dialectic, and the *quadrivium*, consisting of arithmetic, music, geometry, and astronomy. Boyer and Kaplan (1977) note that these seven subjects descended as "a fixed and known body of knowledge," through the Middle Ages, the Renaissance, and the Reformation, and through English universities to Harvard in the seventeenth century. This notion of a fixed body of knowledge formed the basis of what is now referred to as general education, the core curriculum that society determines is necessary for a person to be considered educated. The concept of what an educated person should know is very much subject to topical, external influences -- economic, political, and social. . As Ingalls notes, however, the belief that the main purpose of education is to transmit knowledge is based on two assumptions, neither of which has been true since the nineteenth century. These two assumptions are: (1) "the quantity of knowledge is small enough to be collectively managed by the educational system;" and (2) "the rate of change is slow enough to transmit that knowledge before it changes" (Ingalls, 1972).

> This increase in the rate and quantity of change in society leads to a question of doubt concerning the viability of the "transmittal theory" of education. Instead of trying to transmit all of what is known, perhaps our purpose could be "to stimulate in the learner a desire to engage in a lifelong process of discovering what he needs to know." (Ingalls, 1972)

The concept of life-long learning is a cornerstone of community college philosophy, but it has gained increasing importance for community college educators who are struggling to respond to workplace demands for ever more specialized curriculum and to both workplace and

social demands that training occur in as short a time as possible. The emphasis is now on providing adults with the necessary learning skills so that they can more independently adapt to such rapidly changing circumstances. Such an emphasis requires a more learner-centered approach, one which is less subject driven and teacher controlled. Ingalls notes three additional factors which enforce the emphasis on lifelong learning. The first is valuing all of life's experiences as potential sources of learning. The second is dealing with divergent perceptions to resolve social conflicts, a concept based upon Lewin's theory of reeducation. The third is adults' comparative inaccessibility to traditional learning approaches such as teachers in classrooms (Ingalls, 1972). Given the complexity of contemporary society and lifestyles, it is most important for adults to know how to access information when they need it. In this respect, the very factors that have created the situation – quantity and rate of change, aided by technology – are the factors that help to alleviate it. The availability of technology to retrieve, store, manipulate, and disseminate information makes it more possible for adults to pursue lifelong learning.

THE ANDRAGOGICAL PROCESS

Ingalls (1972) identifies seven steps in the development, organization, and administration of programs in applied andragogy. As he notes, these seven steps are compatible with general systems theory in that both use a feedback loop to create a continuous development process. It should be noted that these steps can apply to any adult learning situation, be it a community college classroom, a project team in the workplace, or a volunteer committee within a community agency. The focus here, however, is the college classroom. The seven steps follow

and for each there is a brief description of factors which must be considered if learning is to be encouraged and not hindered.

Organization

1. Setting a climate for learning. Adults, especially working adults, need accessible and physically and psychologically comfortable surroundings. They also need a sense of organizational structure, e.g., a lesson plan or an agenda. This notion of setting the climate is probably the most widely adopted element of the andragogical approach according to Knowles (in Ingalls, 1972).
2. Establishing a structure for mutual planning. Adults need to be taught the skills to work collaboratively and classroom teachers must work "away from the leadership role" to promote interaction and collaboration (Ingalls, 1972).

Input

3. Assessing needs, interests, and values. Assessing needs is a step that is often bypassed because many adults feel pressured to find a solution before they've adequately defined the problem. Difficulties are further compounded if adults' basic needs as human beings have not been met before they attempt self actualization, the highest level in the hierarchy of human needs described by Maslow. This is important because if motivation is internally directed, then adult learners whose most basic survival and personal needs have not been met are not in a position to actualize higher level goals.

   Assessing interests, or particular preferences, is important because groups that share common interests, needs and values tend to learn faster than more heterogeneous groups. Finally, clarifying values is important for adults. As Ingalls (1972)

observes, "We are not likely to be committed to invest energy in learning something that we do not really value".

Activity (Processing)

4. Formulating objectives. This step may be the most difficult step as adult learners move from problem finding (Steps 1-3) to problem solving. This step is also difficult for college faculty who generally lack the training their K-12 counterparts receive in writing instructional objectives (Davis, 1995).
5. Designing learning activities. For adults, it is critical to remember that learning is an internalizing process. As adults, we tend to learn only what we want to learn and only in response to our own needs interests and values. Ingalls (1972) notes that in pedagogy, the curriculum is developed outside the classroom, usually by a curriculum specialist, and it is implemented by the teacher. Pedagogy assumes that there is a fixed body of knowledge which can be taught to all students in the same amount of time within parameters established by the teacher. While there are situations in which adults need to learn a specific body of knowledge in a set amount of time, this is likely to be the exception more than the rule. In most cases, the context in which the material is presented, not the subject, controls the situation. Further, the emphasis is as much on process as product.
6. Implementing learning activities. "...the first five steps of andragogy are simply an intellectual exercise if you do not move into step six." It is at this point that the learning process "peaks" (Ingalls, 1972). It is also at this point that adult learners need to be reminded to focus on the process of learning as much as the outcome. If they are to become lifelong learners, then the problem solving skills are as important as the

solution. Teachers must not leave it up to the students to make the connection; it must be explicit.

Output

7. Evaluating results (reassessing needs, interests and values) There are two sides to evaluation: the hard and the soft, the quantitative and the qualitative. Each is a complex and by itself, an incomplete measurement when what is being measured is personal growth and effectiveness. Ingalls (1972)suggests that there are three fundamental aspects which must be addressed: knowledge, experience, and power.
   - Knowledge: In andragogy, the axiom is, "If the learner has learned, he is aware of his learning and is able to demonstrate it. Demonstrable capacity is the result of internalized learning, regardless of . . . the content matter." (Ingalls, 1972)
   - Experience: According to Ingalls (1972), andragogy is based on Leibnitz' perception of the human intellect as active organizer of information which has been accessed through the senses. It is opposed to Locke's view of the mind as a blank slate, a passive receiver of information. While no two people ever experience anything exactly the same way, experiences can nevertheless be shared and provide a basis for communication.
   - Power: Ingalls asserts that "knowledge and experience are related to each other like height is to width. . . distinct yet fused in an inextricable way. Power is the third dimension. It is equivalent to depth." In this respect, power – or life-force – "is the key to understanding motivation" (Ingalls, 1972).

Step Seven is important in the androgological process because it is the step that ensures the process is on-going. It should feed back into Step 3, assessing needs, interests, and values,

and therefore move the learning process forward. The ultimate test is whether the learner (or the organization or the community) has benefited.

While Ingalls believes adults and children do not "learn" (i.e., internalize information) differently, he does assert that they require different conditions to do so. Because adults have more experience upon which to draw, have a greater degree of autonomy, and are more aware of their ability to choose, they are not as teacher- and subject-dependent as children. Their motivation is more internal than external. In fact, their needs, interests and values play a key role in whether and how they are motivated to learn. Moreover, they must balance more responsibilities than children, and thus have less time to access learning via traditional delivery systems.

Yet, as noted earlier, most teachers of adults have little knowledge of andragogy; in fact, many have little knowledge of pedagogical principles because training in these areas is not typically required of higher education faculty. It is assumed that knowledge of a discipline or expertise in a field is sufficient preparation to teach. Formal, systematic examination of the role of learning styles in the learning process is not usually part of college instructors' preparation for the classroom. They teach as they were taught and that generally means in a teacher-centered, subject-centered classroom environment. They naturally anticipate that their students will learn in the same kind of environment and are often quite disillusioned to find that "today's students are not at all what they used to be." Indeed, they are not.

THE NEW ADULT LEARNER

Higher education has seen a steady shift in its traditional student population since the late forties and early fifties, when the GI Bill provided World War II veterans with unprecedented

access to college. The image of the 18 year-old, white male college freshman, mostly unburdened by personal and professional obligations, began to give way to an older, more diverse population who routinely struggled to balance academic goals with family and career obligations. Many were attracted to the community colleges, which became the largest and fastest-growing segment of higher education. The accessibility, cost, flexibility and comprehensive curricula of community colleges better met the needs of this new student population. In 1995, two-year colleges enrolled 5, 566,000 students, 39 percent of those enrolled in higher education nationally (Stark & Lattuca, 1997). In 1994, the National Center for Education Statistics reported that of those enrolled in community colleges, 70 percent attended part-time, 56 percent were 24 years of age or older, 55 percent were female, 35 percent were married, and 65 percent were financially independent. The majority of these students (48 percent), were first-generation college students, their parents having achieved a high school degree or less (Stark & Lattuca, 1997).

In the three decades following World War II, the major concern for all segments of higher education was ensuring that this new student population and their children – the baby boomers – had access to colleges and universities. For the most part, the federal and state governments provided adequate resources to support a period of significant growth, especially at the community college level. This golden age of growth and support was also a time when most of today's instructors who are now nearing retirement age were hired. However, as resources began to dwindle in the seventies and eighties and as the pendulum began its historical swing from concerns about access to concerns about quality, there was a growing dissatisfaction with the quality of student learning on the part of both the public. The result was a plethora of reform reports in the eighties, the earliest of which targeted secondary education but which were soon

followed by reports equally critical of higher education. Were students truly less well prepared than their predecessors? Had quality been sacrificed in the name of access? Who and what were to blame for the perceived crisis in education?

I taught high school for 6-1/2 years before moving to the community college, where I taught for 16 years and where I have most recently worked as an academic administrator for five years. Since the community college serves the students from the high school where I taught, I had a unique opportunity to observe the progress of my high school students as they pursued their studies at the college level. I was certainly aware of the complaints of more experienced colleagues at both levels about students' apparent lack of preparation. As many of those teachers approach retirement, it is still routine for me to hear that part of the reason for retiring is that "students no longer want to learn," or that they "lack the basic skills and knowledge to benefit from higher education." There is no single, simple response to this perception. Clearly, today's students are different from their predecessors. But, perhaps the difference is not solely or even primarily a matter of deficiency on the part of students. Perhaps it is partly the result of an incongruence between the teaching styles of a traditionally educated faculty with limited or non-existent training in teaching adults and the learning styles of a new and more diverse student population.

Charles Schroeder, Vice Chancellor for Student Affairs at the University of Missouri-Columbia, examined this issue in depth (Schroeder, 1993). Using Cross' observations plus data from a study conducted on 4,000 entering students who were administered the Myers Briggs Type Indicator (MBTI), Schroeder discovered some interesting and telling information about learning styles among undergraduate students at his institution.

The MBTI assesses preferences in four areas, two of which Schroeder found helpful in addressing learning styles: extroversion (E) vs. introversion (I), which indicates whether a person prefers to direct his attention to the external world of people and things (E) or toward the inner world of concepts and ideas (I); and Sensing (S) vs. Intuition (N), which indicates whether a person prefers perceiving the world through direct observation (S) or through impressions and imagining possibilities (N).

Schroeder discovered that 60 percent of entering students preferred the sensing mode over the intuitive mode. That is, they preferred direct experience in a structured, sequenced format. They preferred the concrete, the practical and the immediate. They seemed to lack confidence in their intellectual abilities and were uncomfortable with abstract ideas. For these learners, the means to success is from practice to theory, not the more traditional approach from theory to practice. In contrast, their counterparts, the intuitives, were much more comfortable with abstractions, concepts, and ideas. The preferred to move from theory to practice, liked less structure, were more autonomous, and more comfortable with ambiguity. A subsequent survey to measure goals preferences showed that students who preferred the sensing mode of learning were attending college primarily to obtain positions of responsibility that would pay well. Intuitives, on the other hand, more often indicated they were attending college for personal growth reasons or to major in the liberal or fine arts or to make contributions through science.

Subsequent research showed that students who prefer the sensing learning pattern are now in the majority on college campuses, especially on campuses of non-selective colleges, such as community colleges. Why are there so many sensing type students? Schroeder points out that about 75 percent of the general population is estimated to prefer the sensing learning pattern. With increased access to higher education, the college population is beginning to reflect

the make-up of the general population. Taking the MBTI data one step further, Schroeder focused on the relationship between learning patterns and psychological types and identified four patterns, listed in order of predominance:

- ES pattern: (concrete active): These learners are action-oriented realists, the most practical of the four patterns. Concrete active learners learn best when applications are obvious. This is the most pragmatic and least academic of the patterns.
- IS pattern (concrete reflective): These learners are thoughtful realists preferring to deal with the real and factual in a careful, unhurried way.
- EN pattern (abstract active): Abstract active learners are action-oriented innovators who have wide-ranging interests and like new challenges.
- IN pattern (abstract reflective): These learners are thoughtful innovators, introspective and scholarly. This is the most academic and least pragmatic of the patterns.

He notes that the ES pattern is the most frequent, found among about 50 percent of high school seniors and exhibited by the majority of students on college campuses. Note that the ES Pattern is the most pragmatic and least academic of the patterns. Schroeder then initiated a longitudinal, eight-year study called TRAILS (Tracking Retention and Academic Integration by Learning Styles) to see how student characteristics related to choice of major and academic performance. The study included such information as MBTI scores, ACT/SAT scores, high school grade point average, and demographics. He found that the mean SAT score for ES learners was 932 compared to 1110 for IN learners, a statistically significant difference. He found that INs scored highest on all aptitude measures such as the GRE and LSAT, followed by

the ENs, ISs, and ESs. Schroeder cautions against concluding that the difference is attributable to intelligence levels. He notes that sensing (S) students take longer to read questions and are usually at a disadvantage on timed tests that measure the ability to manipulate symbols and discern patterns.

Schroeder also discovered that INs made the highest grades in their first year and ESs received the lowest. He accounts for this difference because most freshmen take general education courses in their first year and "for the concrete active learner, many of these courses are viewed as obstacles because they have little practical utility." ESs want to get to their major. In respect to major, ESs tended to enroll in business, nursing and allied health. The abstract reflective (IN) was disproportionately represented in arts and sciences and significantly underrepresented in nursing. However, by the time the students reached their junior year and continuing through graduation, there were no differences in academic achievement between ESs and INs.

Schroeder then compared the learning patterns of faculty to those of students. The majority of faculty preferred the intuitive (IN) pattern. He found this to be true of over 75 percent of the faculty on numerous campuses while fewer than 10 percent preferred the concrete active (ES) pattern

> Concrete active (ES) learners come to class seeking direct, concrete experience, moderate-to-high degrees of structure, and a linear approach. They value the practical and the immediate, and the focus of their perception is primarily on the physical world. Their IN instructors, on the other hand, prefer the global to the particular, are stimulated by the realm of concepts, ideas, and abstractions and assume that students, like themselves, need a high degree of autonomy in their work. . . . As faculty, we often create classroom environments that are rewarding to us and to students like us, but these settings can be extremely frustrating for the new students. (Schroeder, 1993)

IN faculty are often frustrated themselves by the seeming excessive need of their ES students for structure, clarification, and feedback. The questions arise as to whether and how college faculty should accommodate the predominant learning style of students, especially since it is so markedly different from their own.

It is important to remember that there are at least four learning styles if one uses instruments such as the 4MAT or the Learning Style Inventory (LSI). After having administered the 4MAT to the faculty of my college, one instructor asked whether it would be a natural reaction to test both students and faculty and then "match" students to faculty. On the surface, it is an appealing idea. However, there are significant drawbacks. First, it would probably be impossible to find enough faculty in most disciplines to "match" the learning styles of students, especially given the disproportionate ratio of IN faculty to ES students. Second, we have very little control over the learning situations in which we find ourselves in the workplace or the community or even within our families. It is important to try and accommodate students' learning styles, but it may be even more important to provide experiences in all learning styles so that students are exposed to a variety and learn to adapt. This places great responsibility on the instructor to consciously plan activities that give students of all learning styles an opportunity to be successful. It is also more effective if students are made aware of their learning styles and focus on the process as well as the product. For lifelong learners, understanding how learning occurs best for them is a critical skill.

Schroeder (1993) suggests a number of ways in which instructors can better meet the needs of their concrete active learners. These include primarily active modes of teaching and learning:

- Small group discussion and projects

- In-class presentations and debates
- Experiential learning
- Peer critiques
- Team projects
- Service learning
- Field experiences
- Simulations
- Case method approaches

Further, Schroeder advises that for ES students, assignments which present experience first and theory later are preferable. In addition, ES students need a great deal of structure and prefer sequential learning tasks. Open-ended assignments, independent projects or self-designed learning situations pose challenges to ES students. Too much diversity in environment, ideas, or assignments can cause anxiety. Finally, Schroeder notes that these students need a great deal of feedback and a high degree of personalism. On-going, in class assessment is important for these students.

Schroeder's results lend credence to the theories of andragogy presented earlier in this paper. That is, the majority of today's adult learners respond best to learning situations that are experiential, concrete, and related to their values, interests, and needs. They need structure and feedback.

FACULTY AS LEARNERS

Most institutions of higher education today perceive themselves to be learning organizations or communities, placing emphasis upon learning, as opposed to teaching, and stressing collaboration, reciprocity, and interactivity. Faculty and students are considered equal partners in the learning process and all members of the campus community – faculty, staff, students, and administration – are viewed as learners. It remains to be seen how many institutions will realize this goal and to what degree, but it is a major paradigm shift in higher education. No segment has embraced it more actively, however, than the community colleges, historically perceived to be the one segment of higher education devoted principally to teaching rather than research. It can be argued, however, that good teaching – and learning – require a commitment to scholarship and that the distinction community colleges make between the two is not only a false one, but detrimental to their mission. This section focuses on the needs of faculty as learners and scholars.

Vaughan defines scholarship as:

> the systematic pursuit of a topic, as an objective, rational inquiry involving critical analysis. . . (which involves) precise observation, organization, and recording of information. . . It is the umbrella under which research falls, for research is but one form of scholarship. Scholarship results in a product that is shared with others.. . Scholarship requires one to have a solid foundation in one's professional field and to keep current with developments in that field. (Vaughan, 1992)

He cites a number of reasons why scholarship has never been a priority for community colleges, the principle reason being that it is not part of the community college culture. Kuh and Whitt (1988) define *culture* as the "values, practices, beliefs and assumptions that shape the behavior of individuals and groups in a college or university and provide a frame of reference within which

to interpret the meaning of events and actions." While Vaughan cautions against overgeneralizing about community colleges, he nevertheless asserts that for the most part, community colleges and their leaders have "an attitude of benign neglect," if not "outright rejection" of faculty scholarship (Vaughan, 1992). Specifically, he cites several reasons why scholarship is a low priority for community colleges. These reasons include:

- History: Community colleges' early ties were to public secondary education, not higher education.
- Teaching vs. Research: Community colleges have accepted the marginally valid argument that "a commitment to teaching limits a commitment to research." Scholarship and teaching are viewed as an either-or proposition.
- Vocationalism: The increase in vocational programs "has not enhanced community college commitment to scholarship," although Vaughan is careful to note that many vocational educators are outstanding scholars.
- Community Service: Faculty who teach in community service programs are on the periphery of the academic community and are often excluded from any faculty development programs that might encourage scholarship. The same may be true of faculty who teach in non-credit programs, as well.
- Part-time Faculty: A large number of the faculty who teach at community colleges are part-time. For these faculty, lack of time is a major obstacle, followed by a relative lack of engagement with the college and its resources.
- The Rewards System: Few community colleges acknowledge, evaluate or reward scholarship, partly in reaction against the "publish or perish" system of four-year institutions.

- Expectations of the Job: Community colleges, especially in California, tend to staff conservatively, especially as a result of a national recession which hit California especially hard in the 1980s and early 1990s and lasted significantly longer than in other parts of the country. As a result, administrators and faculty have little time for scholarly pursuits.
- Narrow Definition of Scholarship: A major factor is that scholarship has been perceived as meaning university-type research. Expanding the definition to include original works of art and literature, published articles, original texts, inventions, patents, competency based curricula, innovative partnerships with business and industry, and software, for example, makes the term more compatible with the kind of scholarly activities in which many community college faculty engage. In fact, in a survey of 840 randomly selected faculty at 101 randomly selected technical, junior and community colleges, the George Mason University's Center for Community College Education discovered that 86 percent of full-time respondents and 75 percent of part-time respondents (including faculty from the liberal arts and sciences, education, and vocational/technical disciplines) had produced at least one product in two years. The median number was six and all could be placed in one of seven broad categories:

1. Conference papers
2. Publications
3. Instructional materials
4. Research or technical report
5. Community informational materials
6. Exhibits or performances in the fine arts

7. Technical innovations

8. Other products (Palmer, 1992)

Boyer (1987; 1990) redefines scholarship to include four areas: the scholarship of discovery (traditional research) , the scholarship of integration (synthesis, analysis and interpretation of research findings), the scholarship of application (practical application of research knowledge to produce a solution) , and the scholarship of teaching. It is the last area which applies most directly to community colleges. Boyer takes the position that teachers are not mere transmitters of knowledge. Rather, they also transform and extend it and therefore, "scholarship is at the heart of what the teaching profession is all about" (Boyer, 1990). Ratcliff (1992) supports Boyer's viewpoint, noting that

> the community college emphasis on method rather than content, while developed with the best of intentions, has resulted in a static vision of teaching, a diminished perception of the role teachers play in the transformation of subject expertise, and a denigration of scholarship as a source of reinvigoration for community college faculty (Ratcliff, 1992).

Ratcliff argues that community college faculty transform knowledge, not merely transmit it. "Such transformation, where the discipline mediates the pedagogy,. . . calls for continued intellectual engagement in the field of study and suggests a clear link between subject matter scholarship and faculty vitality" (Ratcliff, 1992).

Ultimately, both Ratcliff and Vaughan fault community college leadership in failing to support scholarship among faculty. Vaughan argues that both presidents and academic deans fail to define scholarship in a way that would make it compatible with their college's mission. They fail to acknowledge and reward scholarship. Equally important, they do not engage in scholarly activities themselves. Finally, they fail to connect scholarship with exemplary teaching (Vaughan, 1992). Bowyer (1992) notes that although a majority of surveyed community

college presidents indicated that they have some means of recognizing faculty scholarship, only two-thirds had incorporated a review of faculty scholarship into their formal faculty evaluation systems. Ratcliff criticizes community college leaders for continuing to structure in-service education for faculty around campus-based workshops on instructional techniques or community college philosophy when what they need and want is professional development in their teaching fields (Ratcliff, 1992).

If for no other reason, as a result of the accountability movement, community colleges must find a way to support faculty learning and scholarship in order to generate the classroom-based data upon which institutional effectiveness measures are based. A strong proponent of classroom-based research, Cross argues that "by investigating teaching as it occurs, faculty members enhance both teaching and learning and become the principle action researchers who contribute to the understanding and improvement of the instructional process" (Cross, 1990). In addition, the AACJC Commission on the Future of Community Colleges argues that "community colleges should define the role of the faculty member as classroom researcher – focus on evaluation on instruction and making a clear connection between what the teacher teaches and how students learn" (AACJC, 1988).

According to Kroll (1992), there are at least five research models which are classroom-based. Some do not involve the teacher, but several do. Kroll stresses, however, that "if the goal of classroom research is to apply faculty scholarship to the understanding and improvement of student learning, then research models that involve faculty themselves rather than outside researchers must be used" (Kroll, 1992). One example is the ethnography model which describes and interprets the culture of the classroom in order to generate pedagogical theory. Another is the ethnography/assessment model, which observes and formulates research

questions in order to assess classroom practice and student learning. This model is believed to be the most commonly used by classroom teachers. Finally, there is the assessment model , in which the teacher-researcher aims to improve the quality of learning by improving teaching effectiveness. All of the models can be effective within the community college environment.

Kroll (1992) examines what it means for community college faculty to become teacher researchers. His conclusion is that as teacher-researchers, faculty come to play a significant role in the area of assessment, evaluation, decision-making, and strategic planning. In short, faculty have a stronger role in governance. There are additional positive results. These include:

- Improving teaching: . . . "Bissex and Bullock (1987) argue, a 'teacher-researcher is not. . . a split personality but a more complete teacher" (Bissex, 1987).
- Creating communities of learners: When teachers study the culture of their classroom in order to assess their own effectiveness and the learning of their students, one result is that students become valuable partners in a collaborative and interactive enterprise.
- Expanding knowledge. Classroom based research, when shared with other community college instructors, can provide information that improves the learning process, as well as build a body of research that is available for continued and in-depth analysis. It also helps to draw community college faculty into what Kroll calls the "larger community of scholars," and reconnects them with their disciplines and colleagues in other two-year and four-year institutions (Kroll, 1992).
- Empowering faculty. The more knowledge faculty have about the learning process, the greater their ability to assess educational reforms and shape policy.

The George Mason study on community college scholarship described above discovered that faculty did receive support for scholarship, but primarily in the form of collegial assistance rather than money. Specifically, they most often received administrative encouragement, followed by computer time or equipment, release time or sabbaticals, and financial support (excluding salary). Researchers found this information encouraging but noted that while some faculty do receive support, others feel their colleges are indifferent or actually hostile. The study also revealed a number of barriers that impede faculty's ability to pursue scholarship. The most common reason was lack of time because of a heavy teaching load. Second was the lack of financial help and third included both the workload outside of the classroom and the fact that scholarship would not improve the instructor's rank or salary. Another impediment is one that results from faculty's own attitudes about scholarship. Community college faculty clearly do not want to be subject to the publish or perish philosophy, nor do they want to be required to work on scholarly products, nor do they want scholarship to be part of the evaluation process. They view scholarship as a "personal and optional endeavor rather than a professional requisite" (Palmer, 1992).

Palmer notes that "scholarship at the community college is a touchy issue," but reaches several tentative conclusions based on the George Mason study.

- If scholarship is defined broadly and not limited to original research, then many community college faculty are actively engaged in projects with potential scholarly value. Thus,. "college efforts to encourage faculty scholarship can be built on what faculty are already doing" (Palmer, 1992).

- College leaders need to articulate a broad definition of scholarship and ensure that scholarship does not compete with classroom teaching nor subject faculty to a publish-or-perish policy.
- Leaders must recognize that scholarship will not take the same form for all faculty members. Incentives should be structured at the department level to allow for a wide variety of projects.
- Institutional encouragement and support are critical elements.
- Faculty cannot be expected to conduct scholarly research as an additional, uncompensated duty. Workload and compensation cannot be ignored.

CONCLUSION

The first part of this paper described some of the fundamental elements of andragogy – adult learning. To summarize, the optimum adult learning environment:

- Provides a multi-directional, equal and reciprocal relationship with the teacher, who does not dominate the learning relationship. . .
- Draws upon the learners' experience and acknowledges their needs, interests, and values.
- Encourages learners to identify their interests and needs and then supports them in their self-directed efforts.
- Is more problem-centered than subject-centered.
- Is physically and psychologically comfortable.
- Provides structure even while the learning activity is largely self-directed.
- Provides meaningful and regular feedback.

Most faculty, unlike the majority of their adult students, are not concrete active (ES) learners. As Schroeder's (1992) study shows, they are primarily abstract reflective (IN) learners: thoughtful, innovative, introspective, and scholarly. This information coupled with the observations about faculty scholarship suggest some specific ways in which community college administrators can support faculty as learners to the benefit not only of the faculty members, but of the college, as well.

- Colleges must value scholarship if faculty are to be motivated to pursue it. Faculty learning, or scholarship, should be included in values, mission, and goals statements using words more specific than "staff development."
- Administrators from the president down must model the behavior they want to encourage. In fact, administrators should be considered and consider themselves to be active members of the college learning community.
- Administrators, in concert with faculty, must define scholarship broadly and find a means of identifying and recognizing the scholarship that faculty currently produce in its many forms, of which university-type research is only one.
- Administrators, faculty senates, and collective bargaining agents should review evaluation processes to find a viable means of formally supporting and rewarding faculty scholarship. More than any other approach, this one guarantees that faculty scholarship will be encouraged and sustained.
- Another means of encouraging faculty scholarship is to build it into the college's strategic plan as an integral component of the assessment of institutional effectiveness. This approach encourages classroom-based research and validates its importance by using the results to make decisions about priorities, allocation of resources, and improvements in services and

programs. It also ensures a research data base which can be used for on-going analysis of overall institutional effectiveness.

- For faculty scholarship to occur, workloads need to be re-examined to provide sufficient time. Scholarship cannot merely be added on top of an already full teaching load. For abstract reflective learners, thinking time is important.
- In addition to time, colleges must develop a means to provide faculty with the resources to conduct classroom-based research or to pursue software development or multimedia instructional approaches. In most cases, classroom based research does not require extensive equipment. Equipment needs are modest and readily available: a computer, a video camera, a tape machine. It may also be helpful to provide work-study students who can assist with data collection and analysis. Or, if appropriate, faculty can integrate their research projects into the class, making students active participants and collaborators in the project.
- Most colleges have offices of institutional research which can assist faculty in setting up research models, accessing information in college data bases, constructing surveys, and analyzing data. If the institutional researcher has knowledge of the kinds of research faculty are engaged in, this is one form of assistance that can greatly benefit the college
- There must be means of disseminating outcomes so that the campus community at large benefits from the knowledge generated by faculty scholars. Further, faculty scholars must be encouraged to present their results at professional meetings or in publications. In the case of presentations, colleges must ensure that faculty have sufficient staff development funds to attend. In addition, colleges can host performances and exhibits of faculty work.

By implementing these strategies, colleges can create a culture of scholarship that both enriches and renews faculty and contributes directly to the quality and effectiveness of the instructional programs and services.

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